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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/817,223 | 04/02/2004 | Shinji Noma | 542-012.008 | 2427 |

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| EXAMINER |
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WU, IVES J

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| ART UNIT | PAPER NUMBER |
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1713

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,223

Applicant(s)

NOMA ET AL.

Examiner

Ives Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- (1). **Claims 1 ~ 5** are rejected under 35 U.S.C. 102(b) as being anticipated by Noma et al (JP 2002-003609).
- (2). Noma et al (JP 2002-003609) disclose the resin composition having superior gas barrier and appearance characteristics, furthermore superior processability for 2nd processing. The resin composition is manufactured by blending in a molten state (A) a saponified copolymer of ethylene-vinyl acetate which has content of 50 wt% or less, (B) a water swellable, lamellar inorganic compound, (C) a water soluble resin (Abstract).

Especially as a water bloating tendency stratified inorganic compound B used for the patentee's invention, without being restricted, clay minerals, such as smectite and a vermiculite, a synthetic mica etc, and a montmorillonite, beidellite, nontronite, hectorite. These may be natural things or could be compounded ([0012], line 1-5). If the degree of water swellable is taken into consideration, a montmorillonite is desirable as a water bloating tendency stratified inorganic compound B ([0013], line 1-2).

The blending ratio of component A-EVOH is 100 wt%, component B-a water bloating tendency stratified inorganic compound is 0.1 to 20 wt% of solid parts ([0033], line 1-5).

In carrying out melting mixing, there is especially no limit, for example, can perform it using well-known melting kneading (mixing) equipments, such as a melting extruder, a Banbury mixer, a twin screw extruder is suitably used especially in respect of the stability of melting kneading ([0029]). The preferable ratio of length to diameter (L/D) is 20-80 of a twin screw extruder ([0030], line 1-3). The residence time in the inside of the extruder of a resin constituent is chosen from the range for 10 – 600 seconds ([0039], line 7-8). The rotational frequency of a screw is chosen from the range of 50 – 500 rpm ([0040], line 1).

Moreover, at least one side of the layer which can fully demonstrate the operation effectiveness when especially the moldings of layered product is presented, and specifically consists of this resin constituent although the resin constituent obtained by the manufacturing method can be used as a moldings of a simple substance – a thermoplastics layer etc, -- a laminating – carrying out – a multilayer – a layered product – using as a moldings is useful ([0045]). In manufacturing this layered product, carrying out the laminating of other base materials to one side or both sides of a layer which consist of this resin constituent ([0046], line 1-2).

(3). As to the resin composition prepared by melt-mixing copolymer A having water content of 20 to 50 wt% and inorganic compound B in an extruder under the condition: $200 < R * W < 8000$ wherein R is a residence time (second) of A, B in extruder, and W is a consumed electric power (kW) of the extruder in **independent claim 1**, Noma et al disclose the component A – a saponified copolymer of ethylene-vinyl acetate having water content of 50 wt% or less. It is noticed that this is product-by-process claim, it would give little weight to the process limitation, *In re Thorpe*, 227 USPQ 964 (CAFC 1985).

As to the limitation of **dependent claim 2**, Noma et al disclose the montmorillonite either in natural or compounded state recited in paragraph (2) which has a cation exchange capacity of at least 100 meq/100g.

As to the ratio of component A/component B to be in the range of 99/5 ~ 50/50 in **dependent claim 3**, Noma et al disclose the content of ethylene-vinyl acetate copolymer to be 100 wt% and inorganic compound to be 0.1 to 20 wt%. With this range, it would provide the distribution such as 85/15 fulfill requirement as claimed.

As to the water content of component A to be 0.1 to 3 wt% in **dependent claim 4**, Noma et al disclose the water content of component A to be 50 wt% or less recited in paragraph (2).

As to the limitation of **dependent claim 5**, Noma et al disclosed the layered product by laminating and at least one layer from the patentee's resin recited in paragraph (2).

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu

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Date: March 17, 2006



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700